1: Pathobiology 1996;64(6):333-8

Involucrin and tumor progression in the uterine cervix.

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The expression of involucrin, a cytoplasmic protein synthesized during squamous maturation, was assessed by immunocytochemistry in different grades of cervical lesions. In normal/benign cervical epithelium and low-grade squamous intraepithelial lesions [SILS or cervical intraepithelial neoplasia (CIN)-1] involucrin showed intense and homogenous cytoplasmic expression in the spinal layers of 75 and 57% of samples, respectively. The basal cell layers showed no expression of involucrin. In high-grade SILs (CIN-2/3) 40% of the samples showed diffuse and focal cytoplasmic expression of involucrin in the differentiated basaloid cells. In the squamous cell carcinomas (SCCs) analyzed, well-differentiated tumors showed intense focal expression in 61% of the cases, moderately differentiated SCCs showed intense expression in 33% of the cases, while poorly differentiated SCCs (PDSCC) showed only a mild focal expression in 7% of cases. With increasing severity of the lesions, patchy expression of involucrin with a mixture of reactive and nonreactive cells predominated. Patterns of immunocytochemical staining for involucrin in cervical lesions of different grades, from low-grade to high-grade SILs, and invasive carcinoma may be of critical importance, if loss of involucrin expression is used as a criterion for neoplastic transformation in cervical epithelium. Our findings suggest that involucrin may be a sensitive marker in identifying the differentiation status of the lesion while the absence of involucrin in PDSCC may be helpful in differential diagnosis.

PMID: 9159028 [PubMed - indexed for MEDLINE]

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